



The research commercialisation office of the University of Oxford, previously called **Isis Innovation**, has been renamed **Oxford University Innovation**

All documents and other materials will be updated accordingly. In the meantime the remaining content of this Isis Innovation document is still valid.

URLs beginning www.isis-innovation.com/... are automatically redirected to our new domain, www.innovation.ox.ac.uk/...

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University led International Technology Transfer

The framework for transferring technologies from academic institutions continues to adapt and evolve. The translation of new discoveries and inventions into innovative products, services or processes is highly rewarding and can generate significant economic impacts and societal benefits. Technologies from world leading academic institutions have been primarily transferred to technology seekers in economies with mature innovation ecosystems. Recently we have seen an increase in interest from companies and investors in the Far East and South East Asia (including the Indian Subcontinent) who are keen to access university technologies. This is excellent news for research intensive academic institutions that now have a great opportunity to increase the impact of the research and engage with the stakeholders from additional territories where both GDP and target markets are growing at a rapid pace.

Through robust international technology transfer partnership models prominent academic institutions, will be able to push many more technologies to the market place and tackle a number of immediate issues including: (a) lack of focus in the sector and gaps in expertise across the value chain in the country of origin; (b) small size of the domestic market; and (c) inadequate infrastructure to support small scale manufacture (for field test etc) and then volume manufacture. Hence a framework that effectively manages and mitigates risk for both parties creating a win-win situation to facilitate and strengthen such envisaged engagements is required.

Adapting to New Trends

At Oxford we have been successful in converting enquiries from partners in countries such as China and India where the technology seekers have contacted us directly. Handling such international enquiries and going further to proactively market technologies in these markets in a sustainable manner are challenging due to a number of factors. Our experience suggests that the majority of these enquiries fail to convert into something tangible as the readiness levels of the technology on offer do not match customer's expectations. This is of course a problem in all markets, but particularly so where technology seeker's experience of licensing and developing disruptive but early stage technologies is limited. Furthermore like any other international partnerships, cultural and business etiquette - which can vary significantly - plays an important role. Even though the medium of communication may primarily be English it is often understood differently.

Technology transfer from universities is hard but technology transfer from UK or US universities to countries where the innovation ecosystem is still developing is very hard. One of the fundamental issues is that university technology transfer units are often resource constrained and do not have the bandwidth to actively market and reach out to the potential customers in multiple countries. The upfront costs of exploring and engaging in such global interactions are high as compared to revenues generated through such technology transfer transactions. In addition, many institutions may feel there is a primary obligation to serve their local and regional economy. At Oxford, via IE (our Innovation Consultancy Platform) we have been actively pursuing these new and important global markets through various channels whilst balancing the competing demand to play a full part in local economic partnerships.

Role of a trusted intermediary

We have developed a network of platforms across continent and have a significant presence in Hong Kong (where Isis Innovation Asia is based). From Hong Kong we have been regularly showcasing our technologies to potential partners throughout the region. We have been actively linking key players in the international technology transfer circles for example in 2012, IE secured funding from Chinese investors to form a spin-out company in the UK to produce a unique, non-invasive cardiac screening technology developed by researchers in Ukraine. IE is now overseeing the creation of a joint venture in China which will license and sell the technology to Asian markets.

We have licensed a tool, designed by academics at the Department of Education at Oxford, for professional development of teachers to an Indian multinational company. The Oxford protocol improves teacher's professional knowledge through dialogue, mediation, action and reflection.

We also have been very successful in working via key partners such as RTC Innovation - a UK-based Chinese Technology Transfer Company, which specialises in investment and technology development between the UK and China.

RTC Innovation helped to secure investment from China for recent Oxford spin-out, Oxford Enhanced Medical, Limited (OxEML). The spin-out aims to improve the early diagnosis of cancers by developing imaging technology with a resolution comparable to MRI, but the accessibility and affordability of ultrasound. RTC Innovation's UK Director, Dr Jian Cao says: "Working with leading Chinese investment companies, private investors, and industry contacts, RTC Innovation has sourced strategic funding for a number of Isis Innovation projects over recent years, contributing to the successful development of new technologies from Oxford University". RTC Innovation helped to develop a scanner created by the University of Oxford's Classics Department by securing over £750,000 from a private Chinese investor for Oxford Multi Spectral Limited. RTC Innovation was also instrumental in closing a deal with the Chinese Department of Public Security for a trial of the scanners for security purposes in a number of provinces. In another example, RTC Innovation procured investors for Oxford Vacmedix, an Oxford University spin-out exploiting proprietary recombinant overlapping peptide technology for the production of vaccines and Assisted Vision, which is developing products to improve quality of life for blind and partially-sighted people. In 2014, the project, which enables the blind and partially sighted to see again, won the Google Challenge Award.

Other Challenges

Although the past and current experiences are an outstanding example of a successful engagement, other interactions have proved less straightforward and even challenges which can be anticipated, such as local regulations and legal frameworks, have at times presented a steep learning curve. As a result we always try to ensure the agreements are governed by English laws where possible. The longer sales cycles often associated with technology transfer have led to delays that ultimately diminish the possibility of concluding a deal. In one instance we could not even go beyond the non-disclosure agreement stage after more than 10 months of intense discussions with the potential licensee over a clause relating to 'Freedom of Information Act' which is mandatory for a publically funded universities in the UK. In some cases, the delay in payments, as agreed in the contracts, has ultimately led to the termination of the licence. In addition, as we continue to make further inroads into the new territories the impact of cultural difference, differences in time zones and working at a distance will carry over into post deal management activities such as royalty payment, reporting and audit.

The Future

Through our consulting arm we provide advice on various aspects of innovation management to various institutions in other parts of the world such as Middle East and South America. To date we have made significant contributions and have complemented ongoing indigenous efforts that aim at strengthening the innovation ecosystem. We witness early signs of transferring Oxford technologies to prospective industry partners and building innovation partnerships in these continents as well.

Oxford's Isis Innovation is one of small number of technology transfer units who have been at the forefront of international technology transfer activities and leading the shift in paradigm. We have several examples of successes and failures. Although we are well-placed to contribute to, and benefit from, global interconnectedness the challenge remains to learn lessons, adapt and do it even better next time.